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ning of each regular issue of the PCT Gazette.*

(54) Title: STRUCTURE OF THE FARNESOID X RECEPTOR LIGAND BINDING DOMAIN AND METHODS OF USE THEREFOR

(57) Abstract: The present invention provides compositions comprising the ligand binding domain (LBD) of a farnesoid X receptor (FXR) in crystalline form. In alternative embodiments, the LBD of FXR is complexed with a ligand therefor. There are provided high resolution structures of FXR complexed with a novel high affinity agonist, fexaramine. The discovered structure of a FXR LBD provides the first three-dimensional view of the structural basis for FXR ligand binding. The present invention further provides a computer for producing a three-dimensional representation of FXR or a complex thereof, and a computer for determining at least a portion of the structure coordinates of FXR or a complex thereof. The present invention further provides methods of using this structural information to predict molecules capable of binding to FXR; to identify compounds with agonist, antagonist or partial agonist activity for FXR; and to determine whether a test compound is capable of binding to the LBD of FXR. The present invention further provides compositions comprising compounds identified by such invention methods.



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## A. CLASSIFICATION OF SUBJECT MATTER

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US CL : 530/402, 435; 702/19, 27

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## B. FIELDS SEARCHED

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Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)  
Please See Continuation Sheet

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 2002/0072587 A1 (SOMERS et al.) 13 June 2002 (13.06.2002), see entire document.	1-37

☐ Further documents are listed in the continuation of Box C.

☐ See patent family annex.

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## 3-

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